## Revisitation of Part 420 - Status Report on the Iron and Steel Effluent Limitations Guidelines

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#### Outline

- Effluent limitations guidelines program
- Regulatory development process
- Statutory requirements and consent decree
- Existing regulation
- Preliminary Study
- Current rulemaking status
- What's next?

## Effluent Limitations Guidelines and Pretreatment Standards

- Industry-specific, technology-based standards
- Limit the amount of industrial wastewater pollutants being discharged into the Nation's waters
- Since 1974, EPA has promulgated effluent limitations guidelines and standards for over 50 categories

## Technology-Based Standards

- Not based on water quality criteria, only treatment effectiveness
- EPA does <u>not</u> require use of the cost model technology basis
- Individual facilities may use any combination of treatment technologies and process changes to meet the limits and standards (the numbers)

#### Implementation

- Direct dischargers National Pollutant Discharge Elimination System (NPDES) permits
- Indirect dischargers Approved publicly owned treatment works (POTWs)

#### Direct Dischargers

- Best Practicable Control Technology
   Currently Available (BPT)
- Best Available Technology Economically Achievable (BATEA)
- Best Conventional Pollutant Control Technology (BCT)
- New Source Performance Standards (NSPS)

#### Indirect Dischargers

- Pretreatment Standards for Existing Sources (PSES)
- Pretreatment Standards for New Sources (PSNS)

- Industry designation in July 3, 1996 Effluent Guidelines Plan (61 <u>FR</u> 35041)
- Review available data, identify gaps
- Site visits and sampling
- Secondary data collection
- Industry survey (engineering and economics)

- Assess technology performance, water use, costs, etc.
- Subcategorization
- Pollutants of concern (conventional, nonconventional, toxics)
- Options development

- Technology costing
- Economic analysis
- Calculate effluent limitations guidelines and standards
- Environmental assessments

- Select preferred options
- Propose regulation
- Comment period
- Public meetings and stakeholder involvement
- Additional analyses as required
- Promulgate regulation

#### 40 CFR Part 420

- Promulgated May 27, 1982 (47 <u>FR</u> 25258)
- Amended May 17, 1984 (49 <u>FR</u> 21024)
- Limits wastewater discharges from iron and steel mills under authority of CWA
- Production-based regulation

#### 40 CFR Part 420

Subpart A Cokemaking

Subpart B Sintering

Subpart C Ironmaking

Subpart D Steelmaking

Subpart E Vacuum Degassing

Subpart F Continuous Casting

#### 40 CFR Part 420

Subpart G Hot Forming

Subpart H Salt Bath Descaling

Subpart I Acid Pickling

Subpart J Cold Forming

Subpart K Alkaline Cleaning

Subpart L Hot Coating

#### **CURRENT POLLUTANTS WITH LIMITS**

CONVENTIONALS	NONCONVENTIONALS	PRIORITY/TOXICS
TOTAL SUSPENDED SOLIDS	AMMONIA-N	TOTAL CYANIDE
OIL & GREASE	PHENOLS (4AAP)	TOTAL CHROMIUM
рН	TOTAL NICKEL	HEXAVALENT CHROMIUM
	TOTAL ZINC	TOTAL LEAD
		TOTAL NICKEL
		TOTAL ZINC
		BENZENE
		BENZO(A)PYRENE
		NAPHTHALENE
		TETRACHLOROETHYLENE

# CWA Sections 304, 306, and 307 require EPA to:

- Review effluent limitations guidelines and standards periodically
- Consider advances in manufacturing technologies
- Consider advances in pollution prevention
- Consider advances in end-of-pipe wastewater treatment

#### Consent Decree with NRDC

- Requires EPA to perform industry studies and to undertake rulemaking with respect to the effluent limitations guidelines and standards on a set schedule
- "Preliminary Study of the Iron and Steel Category" completed September 1995 (EPA 821-R-95-037)

- Major changes in the industry
  - Nonrecovery cokemaking zero discharge
  - Implementation of by-product coke oven NESHAPs
  - Increased production of direct-reduced iron
  - Increased use of pulverized coal and other injectants in blast furnaces
  - Changes in cold forming rolling solutions
  - Continuous casting the norm

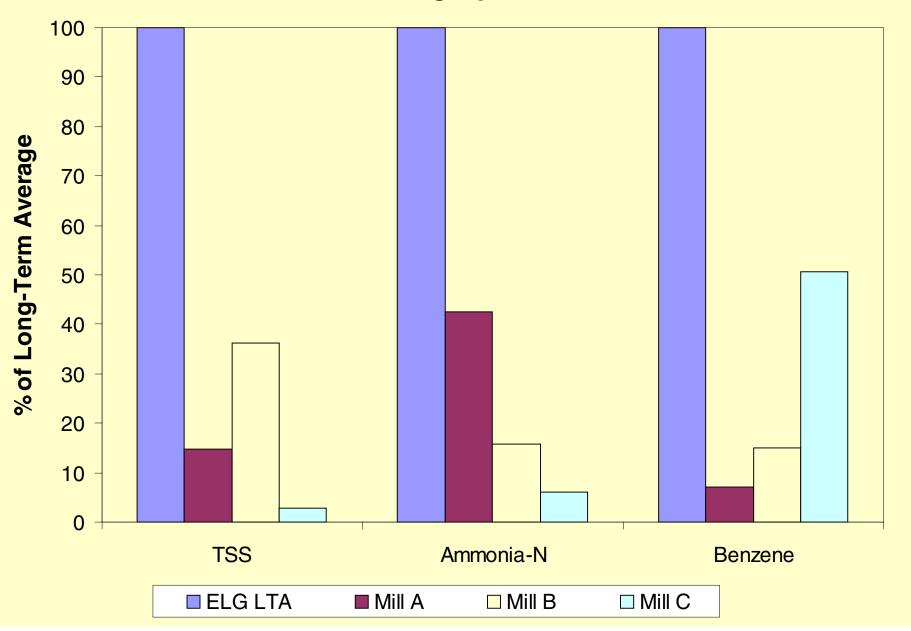
- Major changes in the industry
  - New specialty steel descaling processes
  - New specialty steel acid pickling processes
  - New acid recovery systems
  - New metal coatings
  - Increased productivity in many operations

- Centralized treatment provision was meant to be a one year temporary exclusion
- Steel industry electroplating operations belong in Part 420 per permit writers

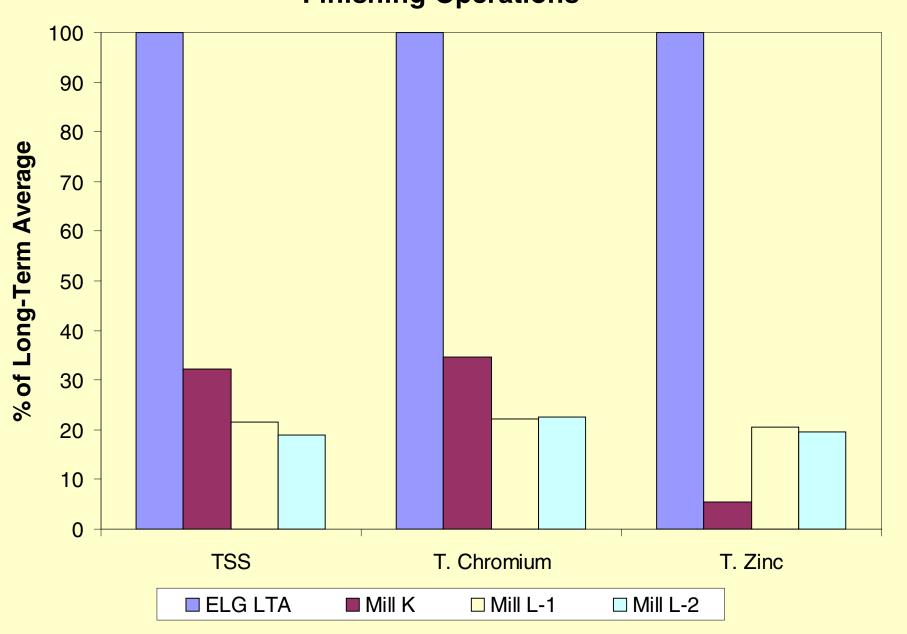
- Pollutant loadings are down due to:
  - increased process water and wastewater recycle rates on manufacturing processes
  - more efficient process operations
  - elimination of obsolete processes
  - improved wastewater treatment processes

- Many better-performing mills are discharging wastewater loadings far below EPA's current standards
- Zero discharge of process wastewater pollutants has been achieved in a limited number of cases

## Mill Performance vs. Effluent Limitations Guidelines Cokemaking Operations



## Mill Performance vs. Effluent Limitations Guidelines Finishing Operations



- Not all of the industry has improved wastewater treatment or proactive pollution prevention practices
- Some mills continue to discharge in excess of current effluent guidelines
- Existing regulation is hard to implement

#### Current Rulemaking Status

- Data Gathering Phase:
  - Reviewing manufacturing processes
  - Creating an industry profile
  - Characterizing the industry
  - Characterizing wastewater

#### Current Rulemaking Status

- Data Gathering Phase
  - Identifying available and demonstrated pollution prevention and wastewater treatment technologies
  - Developing and mailing the industry surveys
  - Performing site visits
  - Conducting wastewater and solid waste sampling and analysis

#### Current Rulemaking Status

- Over 40 site visits performed, 30 more anticipated
- 8 sampling episodes performed, 12 more anticipated
- Information Collection Request approved by OMB (Control No. 2040-0193)
- Meetings and contacts with trade associations and other stakeholders

## Scope of Industry

Integrated mills	20
Non-integrated mills	117
Stand-alone coke plants	16
Stand-alone DRI or sinter plants	4
Stand-alone finishing mills	32
Stand-alone hot forming mills	35

## Scope of Industry

Stand-alone cold forming mills	69
Stand-alone pipe and tube mills	168
Stand-alone hot dip coating mills	111
Stand-alone wire mills	266

#### Information Collection Request

- Detailed Survey
- Short Survey
- Wastewater Treatment Capital Cost Survey
- Production Follow-up
- Analytical Data Follow-up

#### Trade Associations

- American Coke and Coal Chemicals Institute
- American Galvanizers Association
- American Iron and Steel Institute
- American Wire Producers Association

#### Trade Associations

- Cold Finished Steel Bar Institute
- Specialty Steel Industry of North America
- Steel Manufacturers Association
- Steel Tube Institute of North America
- The Wire Association International

#### EPA Contacts

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#### EPA's Iron and Steel Web Site

http://www.epa.gov/OST/ironsteel